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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/624,891	07/23/2003	Masaomi Ebe	Q76448	6755

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EXAMINER	
ROY, SIKHA	

ART UNIT	PAPER NUMBER
2879	

DATE MAILED: 03/08/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

AK

Office Action Summary	Application No.	Applicant(s)	
	10/624,891	EBE, MASAOMI	
	Examiner	Art Unit	
	Sikha Roy	2879	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-7 is/are pending in the application.

4a) Of the above claim(s) 8 is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-7 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on 23 July 2003 is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

Restriction to one of the following inventions is required under 35 U.S.C. 121:

I. Claims 1-7, drawn to flat display panel, classified in class 313, subclass 582.

II. Claim 8, drawn to method of producing flat display panel, classified in class 445, subclass 25.

The inventions are distinct, each from the other because of the following reasons:

Inventions Group II and Group I are related as process of making and product made. The inventions are distinct if either or both of the following can be shown: (1) that the process as claimed can be used to make other and materially different product or (2) that the product as claimed can be made by another and materially different process (MPEP § 806.05(f)). In the instant case the product as claimed can be made by another materially different process such as the display panel can be formed by attaching the seal plate by using adhesive.

Because these inventions are distinct for the reasons given above and (1) have acquired a separate status in the art as shown by their different classification, and (2) because of their recognized divergent subject matter, restriction for examination purposes as indicated is proper.

During a telephone conversation with Mr. Darryl Mexic on February 18, 2005 a provisional election was made without traverse to prosecute the invention of Group I, claims 1-7. Affirmation of this election must be made by applicant in

replying to this Office action. Claim 8 is withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Priority

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Drawings

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the 'seal plate covered with a dampproofing resin' as claimed in claim 7 must be shown or the feature canceled from the claim. No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet"

pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 2 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In claim 2 it is not very clear what the applicant means by the limitation of 'an exhaust seal means'. The exhaust hole and the seal plate tightly sealing the exhaust hole comprise the exhaust seal unit but have already claimed in claim 1 and thus render the scope of claim 2 indefinite. In light of specification 'an exhaust seal means' which is used during the method of producing the flat panel is an intermediate product which is not present in the final product.

Furthermore Claim 2 recites the limitation "the exhaust seal means". There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1,2 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent 5,797,780 to Peng.

Regarding claim 1 Peng discloses (Figs. 3,6 column 3 lines 30-45,55-60 column 4 lines 12-36) a flat panel display comprising two sheets of substrates 1a,1b, a seal layer 5(glass frit), an exhaust hole 9, a seal plate 17, wherein the peripheries of the two sheets of the substrates 1a,1b are sealed with the seal layer 5 via a predetermined gap held therebetween and that the exhaust hole 9 is provided in the back substrate 1b and the exhaust hole is sealed tightly by the seal plate 17.

Regarding claim 2 Peng discloses (Fig. 4) an exhaust seal unit (glass exhaust tube 10, stainless steel tube 20, holder and plunger) and the seal plate 17 is tightly attached to the back substrate by exhaust seal unit.

The recitation of 'seal plate is heat-secured' describes the method of forming the flat display panel and is not germane to the issue of patentability of the panel itself. Therefore this limitation has not been given patentable weight.

Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent 4,770,310 to Morimoto et al.

Regarding claim 1 Morimoto discloses (Fig. 4 column 3 line62- column 4 line 15) a flat display device comprising two sheets of glass substrate 20, 21, a seal layer 27, an exhaust hole 26 and a seal plate (lid member) 28 wherein the peripheries of the two sheets of the substrates 20,21 are sealed with the seal layer 27 via a predetermined gap held there between and that the exhaust hole 26 is provided in the substrate 21 and the exhaust hole 26 is sealed tightly by the seal plate 28.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 3,5 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 4,770,310 to Morimoto et al. as applied to claim1 above, and further in view of U.S. Patent 6,313,579 to Nakano et al.

Regarding claim 3 Morimoto discloses (column 4 lines 40-48) the seal plate (lid member) 28 formed of any suitable material such as glass having a coefficient of thermal expansion substantially equal to that of the back substrate 21. Morimoto fails to disclose explicitly that the seal plate formed of pressed frit.

Nakano in analogous art of sealing plasma display panel discloses (Fig. 2 column 3 lines 11-19, column 4 lines 1- 14) a seal bonding member 20 made of frit (crystalline glass powder of low melting point) into a predetermined shape is used to bond the chip tube 11 to the gas charging hole 9. Nakano further discloses the seal bonding member having coefficient of thermal expansion close to that of the glass substrate provides reliability of bonding.

Therefore it would have been obvious to one of ordinary skill in the art at the time of invention to substitute the sealer and the glass seal plate of Morimoto by the seal plate (seal bonding member) made of frit and having coefficient of thermal expansion close to that of the glass substrate as taught by Nakano. This configuration provides increased reliability of bonding between the substrate and the plate and provides ~~easier~~ simplified manufacturing of the display panel.

Regarding claim 5 Morimoto discloses the substrate made of glass and Nakano discloses (column 3 lines 16-19) the thermal expansion coefficient of the seal plate (seal bonding member) is 0.8 to 0.65 times the thermal expansion coefficient of the glass substrate. The reason for combining the arts as in claim 3 applies.

Regarding claim 6 Nakano discloses (Fig. 5) the thermal coefficient of the seal plate is of 61 to 83 x 10^{-7}/ °C.

Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 4,770,310 to Morimoto et al., and further in view of U.S. Patent 6,827,623 to Nakatake et al.

Claim 4 differs from Morimoto in that Morimoto does not exemplify the seal plate formed of glass plate providing high infrared absorbency.

Nakatake in same field of endeavor discloses (column 15 lines 46-57) glass frit formed of a material having high infrared absorption rate so that the seal plate can be melted by infrared, thereby sealing the through hole.

Therefore it would have been obvious to one of ordinary skill in the art at the time of invention to include the sealing plate of Morimoto made of glass with high infrared absorbency as suggested by Nakatake for sealing the exhaust hole by melting the seal plate by infrared radiation.

Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 4,770,310 to Morimoto et al., and further in view of U.S. Patent 5,914,531 to Tsunoda et al.

Referring to claim 7 Morimoto is silent about the outer surface of the seal plate covered with damp-proofing resin.

Tsunoda in the art of packaging semiconductor devices discloses (column 7 lines 29-49) the circuit board is sealed with resin and thus is greatly protected from moisture. This provides enhanced moisture-proof reliability of the device.

Therefore it would have been obvious to one of ordinary skill in the art at the time of invention to include resin covering the seal plate of Morimoto as suggested by Tsunoda for enhancing moisture-proof reliability of the display device.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. U.S. Patent 4,666,548 to Eto et al., U.S. Patent 6,007,397 to Ju et al. and U.S. Patent 6,459,198 to Dean et al. disclose sealing display devices using seal plate. U.S. Patent Application Publication 20010035712 to Berman et al. discloses thermal coefficient of expansion of soda-lime glass substrate and that of frit.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sikha Roy whose telephone number is (571) 272-2463. The examiner can normally be reached on Monday-Friday 8:00 a.m. – 4:30 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimeshkumar D. Patel can be reached on (571) 272-2457. The fax phone number for the organization is (703) 308-7382.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

S.R.

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